

TITLE
GEORGE WASHINGTON UNIVERSITY
NAVY GRADUATE COMMERCE/ADMINISTRATION PROGRAM

MILITARY FINANCIAL MANAGEMENT
IN TIME OF WAR

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For
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PREFACE

Ideally, any peacetime effort on the part of professional military people should be a part of their overall training for participation in war. I now find myself among the hundreds of career service officers who are concerned with the study and execution of financial management in the Armed Forces. Experience in World War II and the Korean War, and my readings in the history of those conflicts have not served to impress me with the importance of military fiscal management as a tool of great benefit to us in periods of mobilization. Since I am becoming acquainted with the principles of military business administration in time of peace, I am interested in estimating the relative worth of such principles during war-time. Since some military commanders feel that they are obliged to use their people as "budget clerks" and "bookkeepers" in peacetime, they are entitled to know what services of value these personnel, and the system under which they operate, may afford when "M" day comes.

If this paper serves to provide a basis for provoking thought among professional officers on this subject, it will have accomplished its purpose.

TABLE OF CONTENTS

	Page
INTRODUCTION	1
Chapter	
I. MEANS OF MILITARY MANAGEMENT.	4
II. MANAGEMENT CONTROL AT WAR	10
III. IMPORTANCE OF DEFENSE FINANCIAL MANAGEMENT.	18
IV. SUMMARY AND CONCLUSIONS	26
BIBLIOGRAPHY	30

CHAPTER 12

- I. THE HISTORY OF THE UNITED STATES
- II. THE HISTORY OF THE UNITED STATES
- III. THE HISTORY OF THE UNITED STATES
- IV. THE HISTORY OF THE UNITED STATES
- V. THE HISTORY OF THE UNITED STATES

INTRODUCTION

The civilians' primary tool in controlling the military is money. In peacetime the Congress establishes the size and composition of the Defense Department annually by appropriation acts. The President and the civilian secretaries of military departments exercise a check rein on Army-Navy-Air Force policy primarily by means of budget administration or "business administration". In the Navy, for example, the tasks of the civilian executives consist almost wholly of business and budget matters:

The Secretary is directly responsible for the first of the four basic tasks or functions of the Navy Department, the task of policy control; additionally, he is directly concerned with relations with the public, morale, and budget matters. The Civilian Executive Assistants are charged with the responsibility for assuring that the "business administration" of the bureaus, boards, and offices of the Navy Department is properly administered.

Since World War II the size of the military budget and the complexity of organization of the Department of Defense have produced problems of far reaching consequence to the taxpayer. The Department is fully aware of this and has improved its financial management organization and practices. It has taken the position that effective performance as a whole requires effective financial comptrollership both at the Department of

MEMORANDUM

The following is a summary of the information received from the Bureau of the Census, Department of Commerce, regarding the results of the 1940 Census of the United States. The results show that the population of the United States in 1940 was 132,629,793, an increase of 15.1% over the population in 1930. The increase was due to a combination of factors, including a high birth rate, a low death rate, and immigration. The population of the United States in 1940 was distributed as follows: 57.1% in the North, 24.1% in the South, and 18.8% in the West. The population of the United States in 1940 was also distributed as follows: 44.1% in the Northeast, 24.1% in the South, and 31.8% in the West. The population of the United States in 1940 was also distributed as follows: 44.1% in the Northeast, 24.1% in the South, and 31.8% in the West.

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UNITED STATES DEPARTMENT OF COMMERCE
BUREAU OF THE CENSUS
WASHINGTON, D. C. 20540

Defense level and within each of its component departments, the Army, the Navy, and the Air Force. Money, almost to the exclusion of all else, has become the primary means of management control.

In response to this stimuli the services have in turn established elaborate systems for financial management. The dollar sign is attached to every function and is used as a common denominator in measuring either management efficiency or need. Thousands of service personnel each peacetime year, find themselves concerned intimately with budgets, obligations, expenditures, accounting and other financial subjects. Professional military men in recognition of the role and significance of military budgets in the national economy are now giving considered thought to service requirements in terms of dollars as well as personnel or equipage. Since World War II management of the Armed Services has been improved by the adoption of program budgets, comptrollers organizations, the apportionment process, stock funds, new accounting systems, and other financial programs. These were designed for the purpose of preventing the inefficient use of funds and have become a primary means of managerial control.

If the dollar is used as the primary management control instrument in peace time, how will it work in war? Since 1945 the government has evolved an elaborate budget process and a significant expenditure control system. Will these operate

efficiently upon mobilization for a major conflict? As a management tool, how effective will they be?

Any answer to these questions can only be an appraisal. Such an estimate, however, can be made by referencing past experience, by examining new developments in military financial programs, and by noting advances in the field of scientific management which have been introduced into the Department of Defense. This estimate should also furnish the basis for a consideration of the relative importance of budget administration, comptrollership, and ancillary functions in peace and in war.

The following chapters will discuss the requirement for, and the means of management control of the military. Space will be taken to narrate management experiences in wars of the past. Present military financial management organizations and functions will be examined with a view toward their probable operating effectiveness during future emergencies.

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CHAPTER I

MEANS OF MILITARY MANAGEMENT

The purpose of this chapter is to discuss the means of management control presently available to exercise directly, guiding and restraining power over the military. First, it is pertinent to review some concepts of management control and show where they exist in the military.

The constitutional doctrine of civilian supremacy over military authority is as old as the United States. So too, some say, is the problem of making it effective. The translation of this principle into practice is more important today than ever before because of the increases in the economic impact of military expenditures in peace and war. In the Navy Department, civilian heads exercise their supremacy by reserving to themselves matters of overall policy, logistics administration and control, and business administration, Naval command only is left outside their purview.²

A similar situation exists in the other services and throughout the Department of Defense. If we exclude, then, those purely military command actions which have to do with combat training and the actual participation of troops, ships or planes

²Ibid, p. 140

2. *Indochina* 1945

in battle, we have remaining in a very broad sense those functions which pertain in the field of administration subject to the control of civilian executives within the military departments. This is the area in which "management" operates. When we speak of "management" in the Armed Forces we normally are talking about administration which consists of the performance of organizational and supervisory functions in carrying out a program. Every executive, civilian or in uniform, of the military service carries the responsibility for efficient management. Some military officers have additional responsibilities of a command nature. All, however, have administrative tasks and must exercise effective management control over such functions.

Management and administration are synonymous. It has been said that five factors govern the success or failure of management:

The first factor is a precise understanding of the job to be done. The second is qualified and capable men in key positions. The third is a workable organization properly adapted to the job to be done. The fourth is a simple, direct system for carrying on the activities involved in the job. The fifth is a positive method of checking on results. Given any three of these five, a business or agency can properly function with fair success. Four of them operating together will result in much better than average efficiency. However, it requires all five to create the best management obtainable.³

³Lieutenant General Brehon Somerville USA, "Management," Public Administration Review, Autumn, 1944. p. 24.

Management control embraces all five of the elements mentioned above. If any one of these is lacking, control is not complete. Incomplete control is, of course, defective control. What techniques are now available to effect management control throughout the military establishment?

A combination and application of four basic administrative methods conditioned by certain characteristics of program leadership, organization, and other factors results in the control exercised today. They are:

1. Issuance of directives to set forth policies, authorities responsibilities and procedures, establishing a coordinated and consistent basis for the operation of subordinate units.
2. Authorization of specific amounts or quotas of personnel, material, money, space, or work to be performed.
3. Prior review and approval of selected individual transactions.
4. Review of reported information. (after the fact)⁴

These four methods may be used to effect management control of our resources: manpower, materials and money. Since both management and materials may be controlled by concentrating management action in dollar areas the accentuation of control effort in terms of men and equipment rather than money may be neglected, particularly in time of peace. Management organization within the military today appears to reflect this philosophy, and, further, it emphasizes the administrative method of managing

⁴"Budget Administration Methods"; Budget Execution. Materials prepared for training conferences on budget execution. (Washington, D. C.: Bureau of the Budget, 1951) p. 3.

by "authorization of specific amounts ... of money".⁵

It may be argued that the Department of Defense organization also manages by controlling quotas of personnel or material. Are there not powerful offices within the military departments which distribute allowances of people by rank and by occupational specialties? Do not logistic offices ration strategic materials to particular military or civilian uses in peacetime? The answer to both of these questions is, of course, affirmative. But it must also be recognized that the control efficiency of these two functions is ultimately measured in dollars; and is limited by dollars. This is because the Congress of the United States is "custodian of the military purse" and thereby limits the Executive Departments.⁶

So management in the armed forces in peacetime must always be accomplished with the dollar sign in mind due to Congressional monetary limitations. Such restrictions are imposed by recognition of the strain on the national economy of supporting large military establishments. Since the productive effort of the economy is measured in dollars they must also be used as a common denominator in determining military requirements and in computing the effectiveness of armed forces management.

⁵Ibid, p. 3.

⁶Elias Huzar, The Purse and The Sword (Ithaca, New York: Cornell University Press, 1950), pp. 26-7.

The importance of dollars is reflected in investigations of management operations conducted by groups of citizens outside the government. The (Hoover) Commission on Organization of the Executive Branch of the Government in 1948 reported on a study of the Organization under the provisions of the National Security Act of 1947. The report of this group emphasized the need to give the Secretary of Defense greater authority over the fund requests and expenditures of the service departments.⁷

Again in 1955 this same Commission in its report on Budget and Accounting accented the importance of the dollar budget as a management tool:

The budgeting functions are vital to the whole conduct of our Government. In the preparation of the budget lies not only the control of departmental expenditures but the power to insist on efficient methods of management in the spending agencies. And within an effective budgeting system lies the restoration of the full control of the national purse to the Congress the executive agencies should report each year to the Bureau of the Budget and through it to the President, on the conduct of their operations. The proposed agency reports should permit comparison of the costs and efficiency of current operations with past performance, and furnish suitable information relative to measures taken and planned to improve agency management Our task force states in regard to the savings which would result if its recommendations were adopted: The benefits which would result from improved financial management cannot be calculated with any degree of precision but we believe the resultant dollar savings could reasonably be expected to amount to four billion dollars which is approximately 8½ percent of controllable budget expenditures.⁸

⁷The Commission on Organization of the Executive Branch of the Government, Task Force Report on National Security Organization, Appendix G (Washington, D. C.: Government Printing Office, 1949).

⁸The Commission on Organization of the Executive Branch of the Government, Report to Congress on Budget and Accounting. (Washington, D. C.: Government Printing Office, 1955), pp. ix, 7, 65.

The importance of the dollar as a management tool is not to be denied. Consequently, the military services have, in recent years, applied General Somerville's factors of successful management in financial areas.⁹ They understand that the country must have the most effective defense force possible with the dollars afforded for the purpose. They have put capable men in key positions to govern the use of these dollars. A workable organization has been established to control funds in the military. There is a system for carrying on activities involved in the job. And there is a method of checking on results. Further, the civilian executives generate the issuance of directives to set forth policies, authorizations to expend specific amounts or quotas, and requests for reviews of transactions to check on performance. All these factors and administrative methods are used to maintain management control. And the dollar sign is the most familiar item in management communication.

⁹Somerville, op. cit., p. 24.

The University of New South Wales is a comprehensive institution of higher learning, offering a wide range of courses in the sciences, arts, commerce, and engineering. It is a leading research institution, with a strong emphasis on innovation and discovery. The university is committed to providing a high-quality education, with a focus on developing the intellectual and personal skills of its students. It is a member of the Association of Universities and Colleges in Australia, and is recognized by the Australian Government as a leading institution of higher learning. The university is a member of the Association of Universities and Colleges in Australia, and is recognized by the Australian Government as a leading institution of higher learning. The university is a member of the Association of Universities and Colleges in Australia, and is recognized by the Australian Government as a leading institution of higher learning.

CHAPTER II

MANAGEMENT CONTROL AT WAR

In December 1940, Britain desperately needed materiel help against the Nazis. The United States, however, was not at war; Congress and the people were unwilling to give Britain a tremendous dollar loan to buy war materiels. How to help Britain without a loan was a seemingly insoluble problem.

On December 2, President Roosevelt went on a two-weeks' Caribbean cruise. He spent those two weeks in thinking over the problem, searching for the key factor, the novel pattern. After two weeks he returned. He had solved the "impossible" problem. He called a press conference and explained his simple plan to help Britain. He said:

Now, what I am trying to do is eliminate the dollar sign. That is something brand-new in the thoughts of everybody in this room, I think--get rid of the silly, foolish old dollar sign.... Well, let me give you an illustration. Suppose my neighbor's home catches fire, and I have a length of garden hose.....¹⁰

It is difficult to think in terms of garden hoses, or tanks or size nine EE combat boots when we have been accustomed to using the dollar as a convenient common denominator in measuring need. Mr. Roosevelt recognized the necessity of doing this early in

¹⁰Robert E. Sherwood, Roosevelt and Hopkins; an Intimate History. (New York: Harper & Brothers, 1948), pp. 223-25.

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World War II and the history of that conflict proved him correct. Here is what happened to the government's budget system as described by Arthur Smithies:

As the country mobilized for total war, the normal budgetary process became eclipsed. One reason was that the long and complicated process could only work in normal times and could not be readily adapted to rapid change. A second reason was that in time of total mobilization the scarce materials of warfare became more important than money. Hence, during World War II virtually unlimited sums of money were appropriated to the military services, and expenditure rates depended on physical availabilities rather than finance -- as witnessed by the fact that at the end of the war there were some \$60 billion of unused appropriations on the books.

Thus the military expenditure figures included in the budget represented targets rather than ceilings. The main traditional budgetary activity was directed to the imposition of severe limitations on "non-essential" programs. Even here the financial system was greatly assisted by the physical controls. Personnel of the non-war agencies moved into the more exciting and remunerative jobs in the war agencies or into the armed forces. Materials were not available for an extensive public works program. Consequently the Budget Bureau directed its attention mainly to the organization of the Government and to economic stabilization. While it performed a leading and useful role in these respects, it had little voice in the determination of the military-expenditure program.¹¹

The budgetary process by which funds were normally made available to the military for expenditure and which afforded management a means of correlating and choosing operating plans was almost useless in wartime. Management still has remaining some vestige of the budget execution process by which it could

¹¹Arthur Smithies, The Budgetary Process in the United States. (New York: McGraw-Hill Book Company, Inc., 1955), p. 120.

exert some fiscal controls but the scope and urgency of events prevented managers from ever having time to evaluate programs in terms of dollars. A short view of the conditions which then obtained was stated by Luther Gulick:

The major systematic method of exercising administrative control is money. It remained for war to demonstrate that there are other types of control, which may be more sensitive and more useful in certain circumstances. During the war, money ceased to be of any significance as a control, because appropriations were unlimited. Administrators soon discovered that controls based on expenditures were of little value, while controls based on manpower, materials, and space; and processes and performance; and on schedules based on time were extremely important.¹²

Even Congress during the war sought to establish controls through "personnel ceilings" rather than through appropriations.

Military management along with the whole of the government had to start thinking in terms of resources other than dollars. When military management control and coordination through limitation of funds was lost, some rationing of materials had to be established. Since the military had no centralized agency with machinery to allocate resources among the services, active competition for production goods commenced instantly. "Logistics management" specialists rather than "fiscal management" experts came into demand. The formation of dozens of important national wartime agencies and commissions reflected

¹²Luther Gulick, Administrative Reflection from World War II. (University, Alabama: University of Alabama Press, 1948), p. 85.

the recognition of the necessity of managing resources instead of cash.

Herman Miles Somers in discussing the problems of the Office of War Mobilization and Reconversion during World War II said:

Americans learned early in the war that this was not a land of "unlimited resources." There was not enough to satisfy fully and smoothly the simultaneously increasing demands of a hungry war-making machine and of a thriving civilian economy. Primarily because of the competition for limited resources, there developed bitter administrative and policy conflicts over such matters as military requirements and procurement, allocation of scarce materials and determination of priorities. These would have been staggering problems under the best of organization and management. They loomed even larger under the diffusion of responsibility and agency autonomy which long prevailed.¹³

We note no mention of money problems here but there is every evidence of a lack of overall management coordination because there was no effective organization for management control other than by means of the budgetary process which had become useless.

In 1944 Major General C. F. Robinson who was Director, Control Division, Army Service Forces, described the techniques used to overcome management control problems in his organization during the war. The Army Service Forces was made responsible for servicing and supplying the largest army in the history of

Herman Miles Somers, Presidential Agency. (Cambridge: Harvard University Press, 1950), p. 109.

the country. Its responsibilities included the procurement, storage, distribution, and maintenance of all types of supplies and equipment, construction, the purchase of real property, transportation, communications, procurement of personnel, and medical, legal, financial, postal, and recreational service for the Army. Its work covered practically every type of human activity. The "Control Division" was established to advise and assist the commanding general (General Somerville) in his overall management job. Its duties were of four main categories:

1. To review continuously the organizational structure of the ASF with a view to discovering duplications, overlappings, conflicts, inappropriate divisions of responsibility, and authority, and inadequate coverages of activities, and to recommend corrective measures.

2. To measure quantitatively the progress being made in performing the numerous activities of the ASF by means of statistical reports and analyses of statistical data, and to discover deficiencies and delays and reasons therefor.

3. To review continuously the procedures being used in the conduct of the various activities of the ASF with a view to their improvement, through simplification and standardization, for the purpose of eliminating nonessential work and speeding up the flow of work.

4. To investigate continuously the effects of policies and regulations on the achievement of end results, to review operations, and to promote utilization of the best management techniques of business and government.¹⁴

This control organization and the duties assigned it

Major General C. F. Robinson, "Management Control in the Army Service Forces" Public Administration Review, Autumn, 1944.

The concept of "responsibility" is a complex one, involving a variety of factors, including the individual, the situation, and the community. It is a concept that is often used to describe the relationship between an individual and the community, and it is a concept that is often used to describe the relationship between an individual and the community. The concept of "responsibility" is a complex one, involving a variety of factors, including the individual, the situation, and the community. It is a concept that is often used to describe the relationship between an individual and the community, and it is a concept that is often used to describe the relationship between an individual and the community.

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reflect recognition of the problem of managing the largest logistics problem the United States has ever had. We note the application of basic principles of management control in the outline of duties for the "Control Division" and the absolute lack of any attempt in the Army Service Forces during wartime to effect such control by dollar limitations or the reviews inherent in a budgetary process.

Production was the axis about which the war economy turned and upon which the size and effectiveness of the military depended. Production included not only the fabrication of direct military materiel; it covered the provision of equipment for essential services such as transportation, communications, and power as well. It included the provision of the supplies of basic raw materials. The following is a current military opinion of the importance of production in war, largely derived from World War II experience:

Consideration of financial cost are of secondary importance in war production; quality of product and speed of production come first. The vital costs in war production are not costs reckoned in dollars and cents, which can be met without too great difficulty by taxation and government borrowing, but costs measured in labor, materials, and equipment.¹⁵

This philosophy precluded the effective use of the

¹⁵Benjamin H. Williams, "Introduction to Economic Mobilization" Emergency Management of the National Economy, Volume I. (Washington: Industrial College of the Armed Forces, 1954), p. 37.

dollar as a tool of management control in World War II.

Since World War II the organization of the Department of Defense and the subsequent strengthening of the powers of the civilian secretaries have brought on increased controls in the area of military management. Military budgets have assumed a new role and a new significance. On the budget have hinged not only the military strategy and program but also the industrial and economic direction of the country and the destinies of a democratic nation. The budget has become a vehicle of decision concerning our economic and political future in the cold war. However, again the budgetary process was not effective enough to care for the problems of the Korean War. Frederick Mosher says:

An important factor in recent budgets is Korea or, more accurately, the absence of Korea. The projected cost of combat in Korea was omitted from the annual estimates every year after fiscal year 1951 up to and including the Truman estimates for 1954. The military departments have been instructed each year to assume, in the compilation of their estimates, that there would be no further combat in Korea after the first of the fiscal year for which they were budgeting. This was meant, of course, that the actual cost of Korea must be taken up in supplemental estimates and in annual estimates for subsequent years. This may have been because of the difficulty of estimating so far in advance; or because at the time the estimates were made the Administration really predicted that Korean hostilities would end before the budget period; or because of the political hazard of predicting continuation for another year and a half of an unpopular war. Its effects have been to complicate the estimating and reviewing processes

and to put the services about a year behind in estimating and obtaining funds, particularly for procurement.¹⁶

So one budgetary process was used as a management tool for that part of the military which was at peace and another for that part which was at war. The peacetime system was not capable of the war task.

Recent history seems to indicate that the control of finance has not been an effective tool of management in the military organization at war. However, financial management methods and the governmental budget process have changed considerably in recent years. In the following chapter these improved functions will be examined.

¹⁶Frederick C. Mosher, Program Budgeting; Theory and Practice. (New York: Public Administration Service, American Book - Stratford Press, 1954), p. 44.

CHAPTER III

IMPORTANCE OF DEFENSE FINANCIAL MANAGEMENT

There can be little question that one of the most effective tools of the Secretary of Defense, if not his most effective instrument of supervision over the three military departments, is his control of the military budget.¹⁷

The budget is important to the military today. It would be a mistake to think of it only as a management tool, important as this may be. Budgeting is far more. It is first of all a work program, a plan, a translation into dollar terms of program objectives, and a statement of the country's resources required to reach these objectives. The magnitude of the military budget has profound influence on the functioning of the whole economy.

A number of years ago Professor V. O. Key pointed out that the most important issue in budgeting was how to allocate scarce dollars among various activities.¹⁸ A later and more enlightened opinion from the military view point is stated by Verne B. Lewis: "The economic aim of budgeting is to achieve best use of our resources."¹⁹

¹⁷Mosher, op. cit., p. 46.

¹⁸V. O. Key, Jr., "The Lack of a Budget Theory," The American Political Science Review, December, 1940, p. 1137.

¹⁹Verne B. Lewis, "Toward a Theory of Budgeting," Public Administration Review, Winter, 1952, p. 45.

THEORY OF THE EARTH AND ITS HISTORY

There are two main theories of the origin of the earth. The first is the nebular theory, which holds that the earth was formed from a cloud of gas and dust. The second is the tidal theory, which holds that the earth was formed from the material of another planet.

The nebular theory is the most widely accepted. It holds that a cloud of gas and dust, called a nebula, began to contract under the influence of gravity. As it contracted, it became hotter and denser. Eventually, it became so hot and dense that it began to glow. This is how the sun and the other stars were formed. The earth was formed from the material of a nebula in a similar way. The material of the nebula began to contract, and as it did, it became hotter and denser. Eventually, it became so hot and dense that it began to glow. This is how the sun and the other stars were formed. The earth was formed from the material of a nebula in a similar way. The material of the nebula began to contract, and as it did, it became hotter and denser. Eventually, it became so hot and dense that it began to glow. This is how the sun and the other stars were formed.

The tidal theory is the second most widely accepted. It holds that the earth was formed from the material of another planet. This planet was called Theia, and it was about the size of Mars. It was in the process of colliding with the earth. When the collision occurred, a large amount of material from Theia was ejected into space. This material eventually coalesced to form the moon. The rest of the material from Theia and the earth coalesced to form the earth as we know it today.

By comparing the quotations above we see that the Secretary of Defense, through the budgetary process, is exercising supervision over the allocation and use of that portion of the nation's resources which are being made available to the military by Congress and the President. By the delegation of such supervisory authority down through the chain of command to the lower levels of military organization, the Secretary of Defense has established a system of financial control which has become the primary tool of management in the military. Resources are controlled by the budget.

Money is used as a common denominator for budgeting because in normal times it represents in general the cost of scarce resources. In time of extreme scarcity, such as total war, the money measure of scarcity becomes inadequate. Budgeting in terms of critical scarce factors such as manpower or strategic materials then tends to replace monetary budgeting; it is usually called "programming" rather than "budgeting."

We have seen that in past mobilization emergencies the budget process failed to operate. Since those times the process has been improved and a mandate from Congress²⁰ led the Department of Defense to develop the concept of financial management. In doing this the Department established many managerial functions

²⁰Title IV, National Security Act Amendments of 1949, Public Law 216, 81st Congress.

and practices, new to the military, which have proven their effectiveness in peacetime as a control tool. Some of these may be effective in war although they are yet to be tested as applied in the present organization.

As examples, comprehensive comptroller organizations have been established in all three military departments and for the Department of Defense as a whole. Budgeting has been largely transferred to the performance pattern with extensive revision of the appropriation structure. Stock funds have been extended to include \$10 billion of inventories, and installations doing \$2 billion in annual business have been put on a business-like basis by financing them under industrial funds. Tremendous strides have been made in extension of financial accounting for property. Progress reporting and statistics has been recognized and established as a valuable management tool. Internal audit organizations have been created on a unified basis in each of the three military departments. All these things represent the application of recognized commercial business methods in the military for the announced purpose of achieving maximum efficiency and economy in maintenance of the forces in being.

These methods of business administration and financial management control have been applied in varying degrees directly

to many classes of military activities. The operation of posts, camps, air stations, etc. is conducted using generally applicable commercial practices. The same applies to "wholesale" supply and distribution systems, and to maintenance and production facilities. Inventories, except for capital items such as ships and aircraft, are subject to control through commercial practice due to their substantial resemblance to commercial items. And industrial and commercial type activities which parallel private business closely are being managed through techniques of business administration, financing, and accounting. Other areas being "commercialized" are research and development activities, construction of public works, and medical care. Only combat units capable of momentary deployment are exempt from commercial management practices because of their unique function which has no counterpart in business.

All of these financially managed activities represent currently about \$35 billion in annual expenditure and utilize 3 million military and one million civilian employees.

It has been attempted to tie in the financial management system with the command and management structure which operates and controls military programs. Except at the Secretarial level, command and management responsibility in the

Department of Defense is largely assigned to military personnel. The military people operate under pressure from two sources. The financial management program calls for economy, recognition of cost, and dollar efficiency. Purely military concepts require sufficient manpower and materiel at any place and any time to minimize potential military risk with only secondary recognition of dollar cost factors. From the point of view of the department secretaries the problem is that of "attaining harmonious balance between the normal commercial concept of management with profit incentives and emphasis upon efficiency and economy, on the one hand, and the military concept of logistic adequacy, on the other."²¹

In the Department financial management of the activities mentioned previously finds the military managers concerned with five basic functions: budgeting and funding, accounting, expenditure and collection of funds, progress reporting, and statistics, and auditing. It is the first of these, budgeting and funding, which affords real and effective management control from the Secretary of Defense down through the chain of command. The following is the content of the basic elements of budgeting and funding:

1. Translation of military or operating program and reprogramming requirements into financial terms.

²¹Department of Defense, Financial Management in the Department of Defense. (Draft, November 1954), p. 5.

2. Development and presentation of the effects of proposed budgets or alternatives to assist in the establishment or clarification of program policies.

3. Preparation and review of proposed budgets in conformity with program policies, applicable performance standards, and in consideration of total funds available for specific programs.

4. Once budget decisions have been made, justification, in conjunction with operating or program officials, of proposed budgets to higher levels in the Executive Branch, and the Congress, as appropriate.

5. Preparation, review and submission of requests for apportionment, allocation, or allotment of authorized appropriations, based upon approved operating budgets.

6. In accordance with policies or direction of the President, Secretary, commander or manager, as appropriate, and in conformity with approved operating budgets, transmission of authority to obligate funds made available through apportionment, allocation, or allotment.

7. Review, analysis, and follow-up of data provided through financial reports with respect to operating costs, capital expenditures, obligations and commitments, investments in inventories and other property, and status of available funds.

8. Day-to-day analysis of financial implications of proposed program revisions, new programs, and major financial transactions.²²

The budget fixes the magnitude, the scope, and the quality of the services which the military will render and is the means of ascertaining the greatest possible return from the expenditure of authorized funds. And through the fund apportionment process

²²Ibid, p. 182.

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it affords means of managing by authorizing specific amounts of resources through a highly centralized organization structure.

It should be noted here that political factors affect the budget process in the Department of Defense as well as in other parts of government. John D. Millett says:

At the same time it must be emphasized at the outset that the very nature and process of budgeting is such that management must necessarily be influenced in great measure by the larger political implications of budgeting. Administrative agencies must prepare budget estimates according to the wishes of the chief executive and preferences of the legislature. Management, therefore, does not have unlimited discretion in preparing budget estimates. The work of budgeting by management is complicated by these external interests which must necessarily be dominant.²³

Many searching socio-political implications affect the problem of military financial management and they are outside factors which are recognized continually in the budget formulation and execution process during peacetime. James Forrestal stated them plainly in his diary:

There are no easy black and white solutions for the problems which face this country. How to secure the formation of capital necessary to our plant replenishment, how to secure a tax system which will provide the incentive and the opportunity for the individual acquisition of capital, how to balance between a military organization sufficiently formidable to give any country reason to stop, look, and listen, without at the same time eating our national heads off -- these are the segments of a very complex matter which must trouble any citizen who understands it ...²⁴

²³ John D. Millett, Management in the Public Service. (New York: McGraw-Hill Book Company, Inc., 1954), p. 204.

²⁴ James Forrestal, The Forrestal Diaries (New York: Edited by Walter Millis, The Viking Press, 1951), p. 513.

So we find that the dollar budgetary process has been improved during this time of peace. Military people have been educated and integrated into a financial control system which is appropriately sensitive to the expressions of political requirements stemming from sources outside the Department of Defense. And this system permeates almost every area of military activity. From the standpoint of peacetime economy and effectiveness this management control system is the best we have been able to evolve.

CHAPTER IV

SUMMARY AND CONCLUSIONS

We have seen that financial control in the budgetary process is our primary means of managing military resources. History tells us that this means failed in World War II, and when it failed we had few if any management tools to replace it. The weight of the military expense load on the economy today forces us to use the dollar as a common denominator in distributing resources and focuses our attention on the importance of financial management in the military organization.

Inherent in the budgetary process as it exists today are two complications which work against its wartime effectiveness. The first of these is the amount of substantive detail which now must be included in appropriation legislation. The second is the length of time taken up in the budget formulation process. If detailed plans in terms of dollars must be provided the highest levels of organization for decision no decentralization of authority is possible. Such decentralization is a must in time of war. And the rapidity of change of volume, and rate of operations precludes the use of a decision making process which takes as much as two years to operate. The violent wartime changes in the supply-demand ratio which normally govern operation of our economy result in price changes and

CHAPTER 2

THEORY OF THE ATOM

The first step in the development of the theory of the atom is the recognition that the atom is not a simple sphere of matter, but a complex system of particles. The first model of the atom was proposed by John Dalton in 1808. He proposed that the atom is a small sphere of matter, which cannot be created or destroyed. This model was based on the law of conservation of mass. However, it did not explain the structure of the atom. In 1897, J. J. Thomson discovered the electron, which is a negatively charged particle. This discovery led to the development of the plum pudding model of the atom. In this model, the atom is a sphere of positive charge, with electrons embedded in it. However, this model did not explain the stability of the atom. In 1911, Ernest Rutherford discovered the nucleus of the atom. He proposed that the atom consists of a small, dense nucleus of positive charge, with electrons orbiting around it. This model was based on the results of his alpha particle scattering experiment. However, it did not explain the stability of the atom. In 1926, Erwin Schrödinger developed the wave mechanics model of the atom. He proposed that the electron is a wave, and its position is described by a wave function. This model was based on the principles of quantum mechanics. It explained the stability of the atom and the discrete energy levels of the electron. The wave mechanics model of the atom is the most widely accepted model of the atom today.

value variances which in many cases make the dollar useless as a common denominator for determining need. In such cases financial controls are ineffective and in some cases could be harmful.

It seems clear that Defense Department financial control, effective as it may be today, would be considerably less effective in a mobilization period. And it follows that if finances are a primary management tool now, overall management control will be weakened considerably when war occurs if something is not substituted to make up for its loss. Administrators will have to establish controls based on manpower, materials; space, processes and performance; and on schedules based on time. All of these must be their concern rather than dollars. Management in such circumstances must recognize and utilize the formal techniques of management. L. W. Hoelscher describes them as:

...such processes or phases of management as planning the program, planning the organization, scheduling the program, budgeting the operation (in terms of resources), staffing the organization, establishing, maintaining and using the facilities and equipment, establishing procedures and controls, providing administrative services and facilities, establishing communications, motivating the organization, securing evaluation through reports and inspection, establishing work standards, controlling in accord with available resources, getting better performance, providing strong leadership, and maintaining external relationships.²⁵

²⁵L. W. Hoelscher, "Management Improvement Techniques" What We Learned in Public Administration During the War (Washington D. C.; Graduate School, U. S. Department of Agriculture, 1949), p. 96.

very serious and in many cases the only reason for
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The intensive application of financial management in the military has served to formalize the recognition of many of these management techniques in the minds of the military personnel concerned with management. Comptrollership organizations throughout the military now contain personnel who have been educated in these management practices. Although these people now accent control of the dollar as a management tool it is not inconceivable that their talents may well be directed toward aiding management to control by other methods in case of war or mobilization.

Probably the greatest value which will accrue from the intensive use of financial management practices in peace is the fact that when war comes military leaders' attention will already have been directed to the real need for effective management controls of our resources.

Financial management in peacetime is a necessity in the military in order to maintain the best possible state of combat readiness with the resources made available by the Congress and the economy. Where "business-like" practices are proven and applicable they should be used as a part of this financial management process. In a period of mobilization, however, financial management and ordinarily successful business methods will fail in many areas of military endeavors. Management

personnel must stand ready in such cases to implement other management techniques which will insure maintenance of adequate control of operations and resources.

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